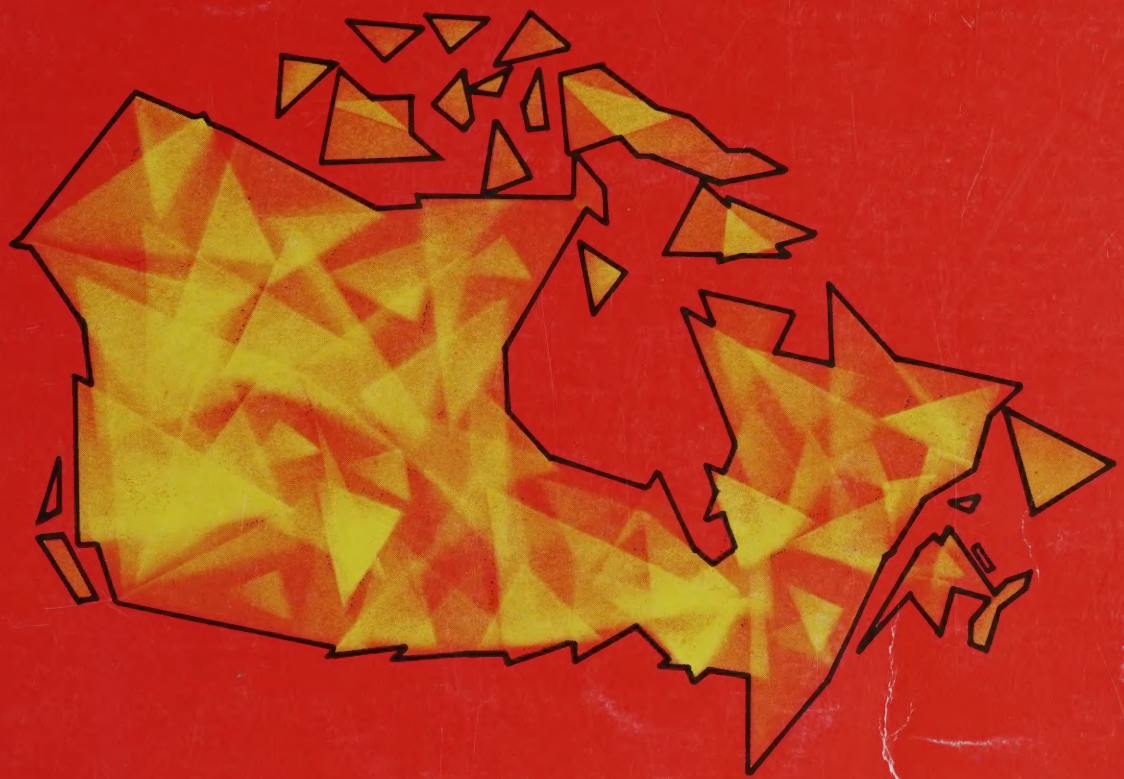


PROCEEDINGS

CANADIAN CONTRIBUTIONS TO A CANADIAN/U.S. SEMINAR ON HEALTH PROMOTION AND DISEASE PREVENTION RESEARCH

Canada

Health and Welfare Canada

Santé et Bien-être social Canada

CANADIAN CONTRIBUTIONS TO A CANADIAN/U.S. SEMINAR ON HEALTH PROMOTION AND DISEASE PREVENTION RESEARCH

PREFACE

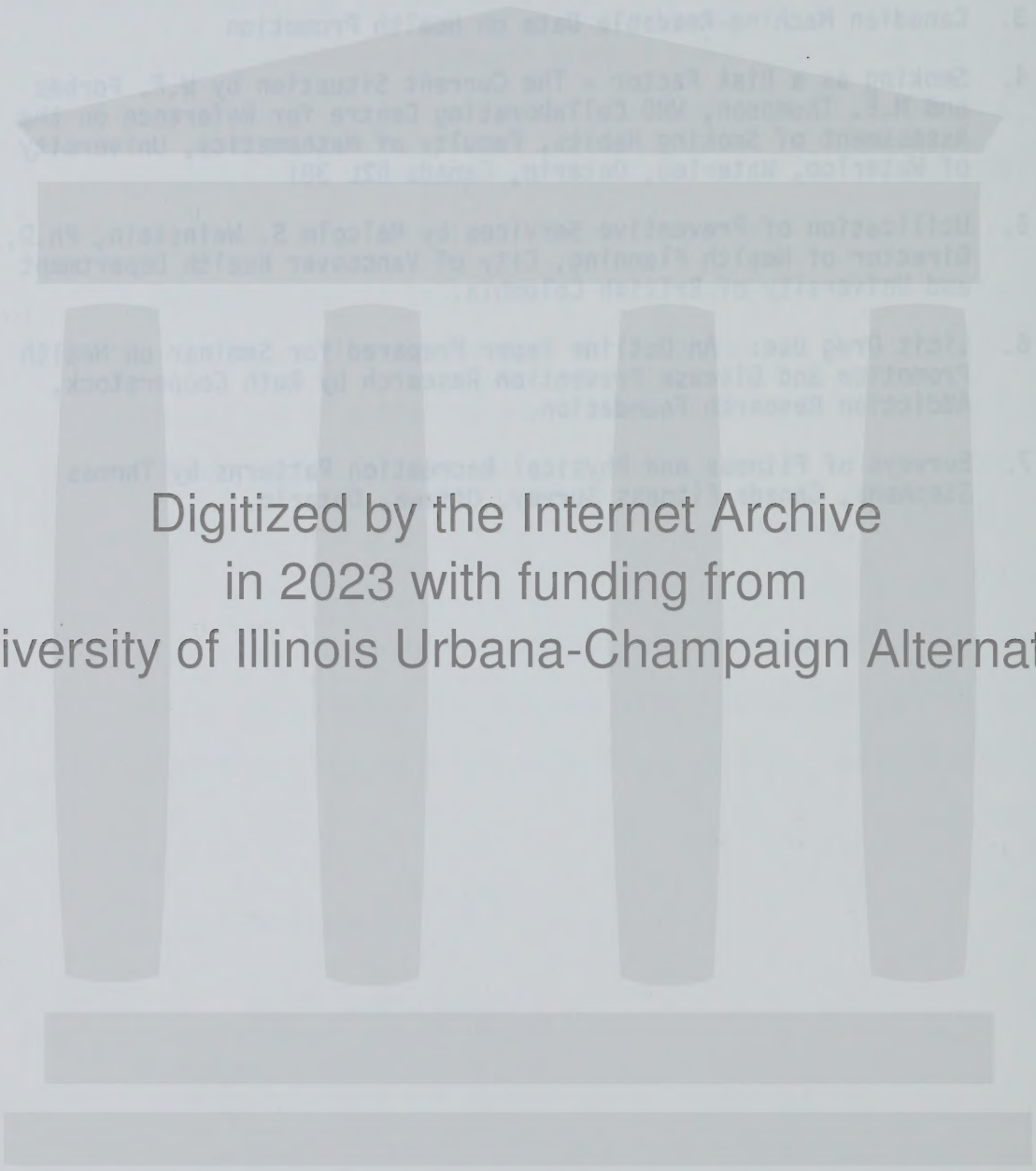
On November 11, 1982 a seminar sponsored by Health and Welfare Canada, the U.S. Office of Disease Prevention and Health Promotion and the National Centre for Health Statistics on the topic of Health Promotion and Disease Prevention Research took place in Montreal, Quebec. The intention was to jointly publish the proceedings of this valuable seminar and make them available to researchers and other interested parties in both countries. For a number of reasons however, this has not as yet been done.

In the meantime, it was felt that it would be desirable to at least release this unedited compilation of the Canadian contributions to the seminar to interested colleagues in both official languages in the hope that it would stimulate further work in Canada.

We would like to thank the authors of these papers as well as the other participants in the workshop for their contributions. Hopefully, others will find their work to be helpful.

Irving Rootman, Ph.D.
Chief, Health Promotion Studies Unit
Health Promotion Directorate
Health and Welfare Canada

CONTENTS



1. CANADIAN HEALTH PROMOTION/DISEASE PREVENTION INITIATIVES: WITH SPECIAL EMPHASIS ON RESEARCH

BY

Maureen Law, FCRP(C)
Associate Deputy Minister
Health and Welfare Canada

Health Promotion is not new in Canada. Early Canadian history is full of interesting people warning us of the evils of drinking, the hazards of smoking and the dangers of promiscuous sex. Their messages were vivid and clear. In those times, health promotion messages came from the churches and the charitable organizations appointed by the community to guard its health and welfare.

As time passed, the constellation of players in health promotion changed drastically. The Federal and Provincial Governments have gradually become the dominant partners in a working relationship shared with voluntary health agencies and health professionals. It goes without saying that this has drastically changed the tone of the field, including the way in which it is planned and the role which research plays.

The Federal Government has become progressively more active in health promotion and disease prevention over a period of about sixty years.

This involvement began at the end of the first war with grants to the provinces for the control of venereal disease. Since that time, it has dealt with other issues as public and political demands of the time have dictated - issues such as nutrition, child and maternal health, smoking, physical fitness, drinking and drug use. Frequently, a decline in public concern has been followed by a decline in government activity, no matter what the state of the problem. The means of intervention used has been typical of those available to a national government - information to the public, research, technical consultation, resource development and of course, money.

The last decade has been a period of accelerating change in health promotion. The major contributor to this change has been A New Perspective on the Health of Canadians, a green paper published by the then Minister of Health, Mark Lalonde, in 1974. New Perspective, as its name implies, was intended to examine the health status of Canadians and our health care system from a fair but searching point of view. The underlying theme was, what are we getting from the system as it stands and what can we do to get more?

The conclusion of the Lalonde report was that our health care system was amongst the best in the world. The view was however, that additional expenditures for curative medicine or treatment would produce only marginal changes in the health status of Canadians. Significant improvements would require Canadians to adopt healthier lifestyles and to ensure for themselves a safer and cleaner physical environment.

Based upon the health field concept, the Lalonde report suggested human biology, environment, lifestyle and health care organization as the sectors into which the health field should be divided for purposes of policy analysis and resource allocation. It further suggested five strategies to direct long-term future action, two of which - a health promotion strategy and a research strategy - are particularly pertinent to our discussions here.

New Perspective received immediate rave notices in many parts of the world, most particularly south of the border. The Canadian response, quite typically, was quiet, fairly deliberate but as it turns out, quite practical. It has begun to achieve its real fruition only in the last two to three years as governments and their partners in the health sector have begun to tool up to do health promotion.

The Federal Government, for its part, took a significant step in 1978 when it set up an integrated health promotion program and one organizational unit to manage the program. With that step, it brought together in one place, six programs concerned with issues such as nutrition, smoking, alcohol and drug use that were located in various parts of the Department of Health. As a result, we are now in a position where all Federal health promotion activities except Physical Fitness falls under one clearly defined roof - The Health Promotion Directorate - which is part of my Branch.

One of the first tasks set for the Directorate was to develop a long-term plan which could guide its activities and the activities of the Federal Government with respect to health promotion/disease prevention

in the decades to come. Such a plan has in fact been developed and has recently been endorsed by the Federal Cabinet. I would like to briefly describe some of its elements before I pass on to a discussion of some current initiatives with special emphasis on research.

First, let me describe the stated aims of health promotion. The program has three objectives. They are: to promote wellness or good health, to encourage the avoidance of unnecessary health risks and to assist those with handicaps or chronic diseases in learning skills for coping with their circumstances.

In the past, health promotion programs have directed most of their attention towards the avoidance of health risks associated with behaviours such as smoking and drinking. This reflected prevalent views of critical issues of health behaviour, and failure to articulate the characteristics and preconditions of good health. In adopting the three objectives the Canadian program begins to move away from this traditional narrowness toward a position that is more in line with the concept of health as physical, mental and social well-being; which happens to be the one espoused by the World Health Organization. On the one hand, the program will work towards defining the characteristics of positive physical and mental health and finding valid ways of expressing this in practice. On the other hand, it specifically recognizes that there are many for whom handicaps and chronic disease will continue to be a burden and they also deserve their share of health for all. This breadth of objectives is essential for a humane and positive program.

In the light of these aims, six lifestyle issues have been selected as priorities. Those issues are: nutrition, smoking, alcohol use, drug use, safety and mental health. This list is characteristic of health promotion programs around the world. The absence of a seventh issue that you might expect to find here, that is physical fitness, does not mean that we do not recognize this as a cornerstone of effective health promotion. It means that the program is administered by another branch of our Department, but in close cooperation with ours.

In addition to lifestyle issues, the following primary target groups have been selected for the program: children and youth, women, the elderly, the handicapped, native people and people with low income. It is not correct to say that these are priorities - they are too comprehensive and overlapping for that. It is more appropriate to say that they represent the perspectives or foci that characterize the program. That is, planning and implementation will occur with the particular interests, concerns and needs of these groups in mind. These groups have been chosen because of the severity or uniqueness of their health problems

Four strategies have been identified to carry out our health promotion program. By the term strategy, I mean major lines of action or intervention to which the program makes long-term commitments. Four strategies have been specifically identified not to limit the kind of action that could be

taken under the program, but to express a policy commitment in action terms. The four are: 1) informing and equipping the public so they can deal with lifestyle issues; 2) promoting a social climate that supports healthy lifestyles; 3) supporting self-help and citizen participation in health promotion; and 4) promoting the adoption of health education programs and practices within health care, social welfare and other established programs.

Behind these four strategies lies the dual approach to putting the program into effect. On the one hand, are those functions the Health Department does itself, such as advertising, information production, and development of specialized programs with resources. On the other hand, it uses the system of grants or financial contributions to encourage other groups or organizations to become involved in health promotion. These are particularly helpful in stimulating citizen action and encouraging experimentation with new methods of health promotion.

Finally, a word about the life of the health promotion program. Officially, it began on April 1, 1982. It will operate with the policy guidelines that have been given for a period of six years, that is until 1988. During the first five of these years, the processes through which the program is implemented will be systematically evaluated as well as its effects. This will provide the basis for a decision in the sixth year about the future of health promotion at the national level in Canada beyond 1988.

To summarize, we now have direction from our Government on six points: the aims of our health promotion program, the lifestyle issues it addresses, the primary target groups, the strategies it uses, the length of

its life and the way achievements will be evaluated. Together these constitute the parameters within which resource allocation takes place.

Against this general background, I would now like to give you some specific examples of some health promotion/disease prevention initiatives in Canada which do have significant data collection and monitoring components.

One such example is a program which we have just recently launched which is called "Towards a Generation of Non-Smoking Canadians". As suggested by this title, the primary objectives of this multi-agency program will be prevention of smoking onset among youth. Related secondary objectives include decreasing smoking among significant adults who are key exemplars for children and adolescents and enhancing the image of the non-smoker by creating a social climate increasingly supportive of non-smoking as a normative behaviour.

This program has already involved considerable quantitative and qualitative research in its development and it is likely to involve more research of both types in its implementation and evaluation.

For instance, one project called "Time to Quit" which is linked with the Generation program illustrates approaches to data collection which are likely to be used in the overall program. The project consists of a smoking cessation booklet designed for use by the individual in the privacy of their own home, and of a three-part supportive television series which a community arranges to have aired on a local television station simultaneously with promotion and distribution of the self-help booklet. The project also provides further support through community activities as suggested by a Community Guide

The evaluation of "Time to Quit" involves three main research projects which will provide both process and summative information for program managers. The project includes: 1) an experimental design study of the efficacy of the self-help booklet; 2) a participant observation study of the community planning process leading up to the implementation of "Time to Quit"; and 3) a quasi-experimental design study of the effect of the program in a community setting. From the point of view of this seminar, it is particularly notable that data from one of the existing data sources documented for the seminar, namely the Labour Force Survey on smoking, will form an integral part of the quasi-experimental design.

Unfortunately, there isn't time for me to describe these studies in detail, but we could provide additional information to those of you who are particularly interested. The main point however, is that our Branch does use and will continue to use existing data and to collect new data in order to develop, evaluate and improve our health promotion/disease prevention initiatives.

We do in addition have other objectives that we are pursuing in relation to health promotion/disease prevention research. In particular, we are interested in improving the capacity of our country to do such research. As most of the Canadian participants are aware, we support health research in Canada through our National Health Research Development Program, NHRDP for short. This program provides support not only for research projects but also for the development and maintenance of a cadre of health research workers. The scope of the N.H.R.D.P. reflects the range of health issues of concern to the Department of National Health and Welfare, which is to say that research into various aspects of health care delivery, environmental hazards and the needs of native people all can be accomodated by its program.

A particularly pertinent example of N.H.R.D.P. - funded health promotion research recently approved is a national survey of the health knowledge of Canadian school children. Needless to say, better knowledge on our part of what young Canadians know and do not know about health will permit us to better tailor our health promotion programs.

Consistent with the aim of increasing our capacity to do health promotion disease prevention research in Canada, we are also taking steps to improve the line of communication within Canada's health research community. One example would be this seminar which we were pleased to support, because it provides an opportunity for increasing such communication. Another example would be the initiation of a column on health promotion research in the Health Education Bulletin published by my Branch. In preparing this column, researchers in Canada, including those who are here, have been contacted to provide the results of their studies which could be incorporated into the column. The column will hopefully be read not only by health educators but also researchers interested in health promotion across the country. We are also considering the possibility of developing an inventory of health promotion researchers as well as establishing a health promotion studies series.

Although I have talked mainly about Federal initiatives in health promotion to this point, I would be remiss if I did not stress that important initiatives are being taken at provincial and local levels in Canada as well. A number of the people involved in such initiatives are in fact with us today and I am sure that they will be more than pleased to share their experiences with you.

I would also like to mention that there are a number of important joint Federal/Provincial initiatives underway in health promotion/disease

prevention in Canada. One of the vehicles for stimulating such initiatives which was established about the same time as the Health Promotion Directorate, is the Federal/Provincial Advisory Group on Health Promotion. This committee has twenty members representing the provinces and territories as well as our Department. It has two sub-committees - one of them on nutrition and the other on alcohol and other drug problems. In practice, these committees have engaged in four kinds of activities: the exchange of information on emerging issues and program development; exchange of resources, mainly - audio-visual and print materials; joint definitions of issues and plans; and undertaking of joint projects.

These committees have initiated many successful collaborative projects in the past, including a national media program called "Dialogue on Drinking", and are currently actively involved in developing new initiatives. One example which involves both the overall Advisory Committee and the Sub-Committee on Alcohol and Other Drug Problems is on alcohol use among adolescents and young adults. Another initiative is in the area of emotional well-being.

All of these initiatives have some element of data collection and monitoring built into them, but an example of one that focuses exclusively on such activities is the Alcohol Statistics Working Group which as a result of work over a period of a few years has produced a consensus on a minimum basic data set for alcohol statistics in Canada. Participants are confident that this will result in an overall improvement in the quality and comparability of alcohol statistics in Canada.

I have also had the privilege of being associated with a recent Federal-Provincial initiative which has implications for health promotion/disease prevention activities in Canada over the next decade. I am referring to the Ad-Hoc Committee on National Health Strategies which was established by the Conference of Deputy Ministers of Health in February 1981 to review the health status of Canadians, to identify the priority problem areas and propose related goals and stategies. In carrying out this work, considerable use was made of existing data such as the recently completed Canada Health Survey which I am sure you will be discussing. In fact, the Committee relied entirely on existing data.

On the basis of their analyses of these data, the Committee identified seven priority health problems where major improvements could be made: accidents; arthritis and joint disorders; cancer; cardio-vascular and celebrovascular diseases; maternal and infant health problems; mental health disorders; and respiratory diseases. They proposed five stategies for dealing with each of these problem areas: health risk reduction; early detection of health problems; treatment; rehabilitation; and finally, research, evaluation and data collection. A propos of your discussions today and tomorrow, the Committee considered that serious efforts towards health risk reduction and early detection of health problems along with rehabilitation offer the greatest opportunities for improving health status. They also stressed the need for continued monitoring of the health system and of health problems.

As you can tell from what I have said here this morning, we in Canada are serious about health promotion/disease prevention. We also recognize the important role that research can play in achieving our objectives in this field. That is why we agreed to co-sponsor and participate in this seminar. It represents an opportunity to benefit from existing knowledge and expertise, an opportunity to meet people working in the field, an opportunity to perceive possibilities for future work, and finally an opportunity to enhance Canadian-American collaboration.

I wish you every success in your deliberations and look forward to seeing a copy of your proceedings.

2. CANADIAN DATA BASES ON HEALTH PROMOTION *

by

Irving Rootman
Chief, Health Promotion Studies
Health and Welfare Canada

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* Presented at Canadian/U.S. Seminar on Health Promotion/Disease Prevention Research in Montreal, Quebec - November 11, 12, 1983

To begin, I would like to agree with the rationale that Ron Wilson has put forward for the use of existing data. There is no doubt in my mind that with the continuing shrinkage in resources, we will have to make much better use of data that we already have. It has therefore been very helpful to us to participate in the preparation for this seminar by preparing an inventory of Canadian machine-readable data sets of which you all have a copy.

This inventory was assembled using the same criteria and format as was used for the American inventory. It differs somewhat, however, in that it is restricted to national level data sets. This is the case because we started later than our American colleagues and did not have sufficient time to describe sub-national data sets. However, we have initiated correspondence with provincial officials and researchers in Canada and have already identified a number of data sets that might be included in an expanded inventory. It is our intention to pursue the development of such an inventory, perhaps in collaboration with the Machine Readable Archives of Canada.

In the meantime, the preliminary inventory which you all have contains descriptions of twenty-three national level data sets meeting the criteria. Most belong to the federal government, but five belong to private companies. Whatever their source however, most can be obtained for purposes of secondary analyses for a nominal charge.

The data sets cover all areas of concern to the seminar, but especially alcohol and other substance use. This may be a result of intense concern in Canada about substance abuse in the 1970's and corresponding government research activities in this field during that time period.

My Canadian colleagues are probably familiar with most of the data sets, but there may be some that they are not aware of. For example, I suspect many are not aware of the Print Measurement Bureau Product Profile or the National Time Use Pilot Study.

Most of the data sets are surveys of one type or another. This is not to suggest that data from other sources are not valuable for the study of health behaviours. To the contrary, most of us would agree that other sources such as administrative data can be extremely valuable and I trust that we will discuss such sources during the seminar. Such sources have in fact been documented by the Health Division of Statistics Canada in their recent Directory of Health Division Information. In particular, the sections of the Directory dealing with Vital Statistics and Illness data sets are most valuable from our point of view.

Some of the data sets, such as the Nutrition Canada Survey, have been subject to considerable secondary analyses and some, such as the Canada Health Survey, are under analyses at the

present time. But as far as I am aware, most have not been subjected to secondary analyses, and even those that have, can be analysed further. For example, the Canada Health Survey data could be studied further for relationships among health compromising and enhancing behaviours. The nature of the questions that might be addressed to such data sets are the main subject of this seminar. I'm sure everyone has their views as to what should be done and I look forward to hearing them.

In concluding, I would like to take the opportunity of reminding you that existing data sets have other functions besides answering interesting research or policy questions. For one, they can promote a general interchange of ideas and sharing of research experiences among professionals working in related fields. For another, they can stimulate creative thinking on research issues or techniques that have previously presented problems. They may also assist with research planning by providing answers to methodological questions such as sample sizes required to address particular questions and by suggesting gaps in our knowledge. Finally, such data sets may permit researchers to make cross-national comparisons on key issues or risk groups.

It is my hope, and I'm sure the hope of the other planners of this seminar, that it will contribute to the fulfillment of all of these functions.

3. CANADIAN MACHINE-READABLE DATA ON HEALTH PROMOTION

Prepared on behalf of Health and Welfare Canada by the Machine-Readable Archives Division of Public Archives Canada for Canadian/U.S. Seminar on Health Promotion and Disease Prevention Research in Montreal on November 11 and 12, 1982.

Preface

This inventory of Canadian machine-readable data on health behaviour was compiled by the Machine-Readable Archives Division of Public Archives Canada at the request of Health and Welfare Canada for the Seminar on Health Promotion and Disease Prevention Research which is to take place in Montreal on November 11 and 12 under the co-sponsorship of the Canadian Health Promotion Directorate, the U.S. Office of Disease Prevention and Health Promotion and the National Center for Health Statistics. The following criteria were used to select the data sets for inclusion: they should be national in scope; they should be accessible to others for secondary analysis; and they should deal with at least one health behaviour (e.g. smoking, drug taking, drinking, nutritional practices, safety practices, help-seeking, exercise patterns, leisure activities and use of preventive medical services).

As the exercise progressed, it became clear that it was desirable to ultimately include sub-national data sets in such an inventory and enquiries were accordingly initiated in order to be able to do so. Unfortunately, this task could not be completed in time for the seminar. It is hoped however, that a more comprehensive inventory can in fact be published following the seminar.

I would like to thank David Brown of the Machine-Readable Archives Division for compiling this inventory on such short notice and for having done such an excellent job.

I. Rootman, Ph.D.
Chief, Health Promotion
Studies Unit
Health Promotion Directorate
Health Services and
Promotion Branch
Health and Welfare Canada

Source of Data	Data Format and Availability	Cost and Method of Payment	Accompanying Documentation	Technical Description	Survey Questionnaire
Canada Fitness Survey CFS - 1981	Tape; release of data after publication of findings	Publications are $4-$5 each. Tape at cost of production	Yes; will be supplied with tape	Yes; will be supplied with tape	Yes; will be supplied with tape
Fitness and Amateur Sport; HWC Fitness and Sport Survey	Tape; now available	Charges are based upon cost of tape; free to researchers that supply tape	Yes; supplied with tape	Yes; supplied with tape	Yes; supplied with tape
Health Division; Statistics Canada Canada Health Survey	Tape; now available	$300. for copy of data; $10. for copy of publication	Yes; included in publication	Yes; included in publication	Yes; included in publication
Road and Motor Vehicle Traffic Safety; Transport Canada TRAID	Tape; now available	Free to researchers that supply tape; shipping and handling at researchers expense	Yes; included with accompanying material	Yes; included with accompanying material	Not applicable
Road and Motor Vehicle Traffic Safety; Transport Canada Roadside - 1981	Tape; now available	Free to researchers that supply tape; shipping and handling at researchers expense	Yes; included with accompanying material	Yes; included with accompanying material	Yes; included with accompanying material

Source of Data	Data Format and Availability	Cost and Method of Payment	Accompanying Documentation	Technical Description	Survey Questionnaire
Road and Motor Vehicle Traffic Safety, Transport Canada Roadside - 1974	Tape, now available	Charges are based upon machine time and cost of tape	Yes, included in code book	Yes, included in code book	Yes, included in code book
Print Measurement Bureau Product Profile	Microfiche, hard copy and online analysis	Microfiche - four products covered by membership fee, hard copies are $1. per copy, online analysis includes an access fee	Yes	Yes	Yes, released upon request
Health Promotion Directorate, Health and Welfare Canada Alcohol Consumption	Tape, now available	Charges are based upon machine time and cost of tape	Yes, included in code book	Yes, included in code book	Yes, included in code book
Bureau of Nutritional Sciences, Health and Welfare Canada Nutrition Canada Survey	Tape, now available	Charges are based upon machine time and cost of tape	Yes, included in code book	Yes, included in code book	Yes, included in code book
Health Promotion Directorate, Health and Welfare Canada Prescribed Drugs	Tape, now available	Charges are based upon machine time and cost of tape	Yes, included in code book	Yes, included in code book	Yes, included in code book

Source of Data	Data Format and Availability	Cost and Method of Payment	Accompanying Documentation	Technical Description	Survey Questionnaire
Health Promotion Directorate, Health and Welfare Canada Smoking Habits	Tape, now available	Charges are based upon machine time and cost of tape	Yes, included in code book	Yes, included in code book	Yes, included in code book
Health Promotion Directorate, Health and Welfare Canada Cannabis Use - Adult	Tape, now available	Charges are based upon machine time and cost of tape	Yes, included in code book	Yes, included in code book	Yes, included in code book
Health Promotion Directorate, Health and Welfare Canada Cannabis Use - Adolescents	Tape, now available	Charges are based upon machine time and cost of tape	Yes, included in code book	Yes, included in code book	Yes, included in code book
Arts and Culture Sector, Department of Communications Leisure Activities	Tape, now available	Charges are based upon cost of tape, free to researchers that supply tape	Yes, supplied with tape	Yes, supplied with tape	Yes, supplied with tape
Market Facts of Canada Limited Eating Habits	Tape and hard copy, now available	HARD COPY PACKAGE National sample $15K Regional sample $10K National food $3K Regional food $2K Tapes are an additional $500.	Yes, supplied with package	Yes, supplied with package	Yes, supplied with package

Source of Data	Data Format and Availability	Cost and Method of Payment	Accompanying Documentation	Technical Description	Survey Questionnaire
Pannell Kerr Forster Caarbell Sharr INFOSTUDY	Tape and hard copy now available	HARD COPY PACKAGE National sample 9.5K Regional sample 4.8K Tapes are an additional $500.	Yes! supplied with package	Yes! supplied with package	Yes! supplied with package
Survey Research Centre! York University Quality of Life	Tape! now available	$250. per data file	Yes! included with tape	Yes! included with tape	Yes! included with tape
Survey Research Centre! York University Drug Use Canadian Adults	Tape! now available	Charges are based upon machine time and cost of tape	Yes! included with code book	Yes! included with code book	Yes! included with code book
Survey Research Centre! York University Drug Use University Students	Tape! now available	Charges are based upon machine time and cost of tape	Yes! included with code book	Yes! included with code book	Yes! included with code book
Survey Research Centre! York University Drug Use Secondary School	Tape! now available	Charges are based upon machine time and cost of tape	Yes! included with code book	Yes! included with code book	Yes! included with code book

Source of Data	Data Format and Availability	Cost and Method of Payment	Accompanying Documentation	Technical Description	Survey Questionnaire
Institute of Public Affairs, Dalhousie University	Tape: now available	Approximately $100. per tape	Yes: included with tape	Yes: included with tape	Yes: included with tape
Arts and Culture Sector, Department of Communications Cultural Participation	Tape: now available	To be determined	Yes	Yes	Yes
Department of Statistics, University of Waterloo Smoking Habits School Children	To be determined	To be determined			

Canada Fitness Survey

Study Topic:	Canada Fitness Survey - 1981
Contents:	Physical activity patterns during the last month and year; general daily and weekly activity patterns; physical activity patterns in leisure time; recognition of national fitness programs; participation in fitness tests; lifestyle and health-dietary habits, tobacco use, alcohol consumption and psychological well-being; socio-economic and demographic information; fitness test results on: cardiovascular efficiency, flexibility, muscle strength, and muscular endurance; skinfolds, height, weight, girths, bone diameters.
Survey Frequency:	Once; February - July, 1981
Population Surveyed:	Fitness tests were conducted on 15,519 people between the ages of 7 and 69 years inclusive. Questionnaires were completed by 21,658 people aged 10 years and over. The sample is based upon a cross-section of the Canadian household-based population as identified by Statistics Canada, and is comparable to the Canada Health Survey sample.
To Obtain Data Contact:	Canada Fitness Survey 506-294 Albert Street Ottawa, Ontario K1P 6E6 (613) 236-0173

Fitness and Amateur Sport;
Secretary of State

Study Topic:	Fitness and Sport Survey - 1976
Contents:	Type, frequency and intensity of participation in fitness and amateur sport activities; preferences, needs and motives for participating in fitness and amateur sports; opportunities and constraints to utilization of relevant facilities and services; attitudes and perception; awareness and views regarding federal programmes, services and agencies promoting fitness and amateur sport; consumer expenditures on equipment; lifestyle and leisure habits; social, economic, demographic and cultural information.
Survey Frequency:	Once; October, 1976
Population Surveyed:	A Statistics Canada Labour Force Survey methodology was utilized in order to obtain information about the Canadian population aged 14 years and over. The sample included over 32,000 households representing 73,000 individuals.
To Obtain Data Contact:	Michel Durand Education, Science and Culture Division Statistics Canada 16th Floor, R.H. Coats Building Tunney's Pasture Ottawa, Ontario K1A 0T6 (613) 995-9682
To Obtain Reports Contact:	Sandy Keir Fitness and Amateur Sport Secretary of State Journal Tower South 365 Laurier Ave. West Ottawa, Ontario K1A 0X6 (613) 996-4510

Health Division;
Statistics Canada

Study Topic:	Canada Health Survey
Contents:	Topics include the use of alcohol and tobacco, activity and fitness, seatbelt use, immune status, health problems and disability, emotional health, blood pressure, health services and medication.
Survey Frequency;	Once; May, 1978 - March, 1979
Population Surveyed:	A stratified sample of approximately 40,000 respondents from 20,000 households across Canada
To Obtain Data Contact:	Henry Pold Health Division Statistics Canada R.H. Coates Bldg., Tunney's Pasture Ottawa, Ontario K1A 0T6 (613) 995-7808
To Obtain Report Contact:	Publication Sales and Services Statistics Canada Ottawa, Ontario K1A 0V7 (613) 595-5078
	The report is entitled "The Health of Canadians: A Report of the Canada Health Survey", catalogue no. 82-538E,

Road and Motor Vehicle Traffic Safety;
Transport Canada

Study Topic:	TRAID - Traffic Accident Information/ Data - bank
Contents:	TRAID contains information about reportable traffic accidents that occur on public roads, and result in bodily injury and/or property damage, anywhere in the ten provinces or the two territories of Canada. The information relates to such topics as month, day, time and location of accident; road condition data; vehicle information; physical condition of driver, passengers or pedestrians; driver demographic data; injury and damage information; driver blood alcohol concentrations; use of safety devices and visibility conditions.
Survey Frequency:	Ongoing since 1974
Population Surveyed:	People that have been involed in an accident on a public road where personal injury or property damage has been reported as exceeding a stipulated dollar damage threshold. Information is accorded for each of the ten provinces and the two territories of Canada.
To Obtain Data Contact:	John W. Krzyzewski Road and Motor Vehicle Traffic Safety Transport Canada Place de Ville, Tower C Ottawa, Ontario K1A 0N5 (613) 992-0077

Road and Motor Vehicle Traffic Safety;
Transport Canada

Study Topic:

1) National Roadside Survey of Blood Alcohol Concentrations of Nighttime Canadian Drivers - 1974

2) National Roadside Survey of Blood Alcohol Concentrations of Nighttime Canadian Drivers - 1981

Contents:

Contents of both surveys include demographic information; socio-economic; vehicle type; license data; trip origin and destination; drinking habits; blood alcohol concentrations; seat belt usage; driving conditions; accuracy of perception.

Survey Frequency:

1) Once;
1974

2) Once;
1981

Population Surveyed:

1) 9,744 drivers were surveyed from the ten Canadian provinces.

2) Approximately 16,000 drivers were surveyed from British Columbia, Saskatchewan and Quebec.

To Obtain Data Contact:

1) Machine Readable Archives Division
Public Archives of Canada
395 Wellington Street
Ottawa, Ontario
K1A 0N3
(613) 593-7772

2) John W. Krzyzewski
Road and Motor Vehicle Traffic Safety
Transport Canada
Place de Ville, Tower C
Ottawa, Ontario
K1A 0N5
(613) 992-0077

The release policy with respect to the 1981 survey has not been finalized. All requests for reports should be forwarded to John W. Krzyzewski.

Print Measurement Bureau

Study Topic:	Print Measurement Bureau Product Profile (PMB 111)
Contents:	PMB 111 provides information about Canadians' media exposure habits and their use of various products and services. In total data have been collected for 670 product categories. Topics include the use of feminine hygiene, fragrances and cosmetic products; personal food shopping habits; household consumption of various food products, condiments and spreads; personal consumption of beverages including beer, liquor, wine and aperitifs; use of cigarettes, cigars and other tobacco products; personal care products; vehicle use habits; leisure activity; use of durable goods; financial data; respondents' likes and dislikes.
Survey Frequency:	Once; 1979-1980
Population Surveyed:	Survey is based upon responses from approximately 12,000 personal interviews and approximately 10,000 leave-behind questionnaires.
To Obtain Data Contact:	John Chaplin General Manager, Print Measurement Bureau 11 Yorkville Ave., No. 502 Toronto, Ontario M4W 1L3 (416) 961-3205

The Print Measurement Bureau has conducted two other surveys, PMB 1 (1973) and PMB 11 (1976). PMB 1 involved 20 national magazines and a sample size of 8,000 readers. PMB 11 includes data on 40 national and regional magazines from approximately 10,700 respondents.

Another survey, PMB IV, is presently in progress and the results will be available for release sometime in 1983. The Print Measurement Bureau is planning to conduct annual surveys henceforth.

Health Promotion Directorate;
Health and Welfare Canada

Study Topic:	Alcohol Consumption in Canada: National Surveys
Contents:	Geographic location; demographic information; socio-economic data; media exposure; Dialogue on Drinking Campaign; perception and use of alcoholic beverages; health hazard information; coping/celebration patterns; tobacco use; discussions about alcohol use.
Survey Frequency:	Periodic; November and December, 1976 December, 1977 March and November 1978 February 1979 and 1981
Population Surveyed:	Each survey includes information from approximately 2,000 Canadian respondents who are aged 15 years and over.
To Obtain Data Contact:	Machine Readable Archives Division Public Archives of Canada 395 Wellington Street Ottawa, Ontario K1A 0N3 (613) 593-7772
To Obtain Reports Contact:	Neville Layne Health Promotion Directorate Health and Welfare Canada Jeanne Manse Building Tunney's Pasture Ottawa, Ontario K1A 1B4 (613) 996-4508

Bureau of Nutritional Sciences;
Health and Welfare Canada

Study Topic: Nutrition Canada Survey

Contents:

1) Family File

Demographic and socio-economic data; provincial location; source of drinking water; storage and preparation of perishable foods; location of shopping; amount spent on food for home consumption.

2) Non-participants

Provincial location; sex and pregnancy status; demographic and socio-economic information on those people who did not attend the survey clinic.

3) Dietary Frequency File

File contains information about the frequency and amount of food and beverages that have been consumed by each respondent in the month prior to the dietary interview; amount is measured according to an average serving and recorded as number of servings per day, week or month; demographic and socio-economic data; provincial location.

4) 24 Hour Dietary Recall File

Demographic and socio-economic data; provincial location; dietary habits of infants, children and adults; includes type, amount and time food or beverage was consumed; intake of vitamin and mineral supplements and other products consumed by respondent 24 hours prior to dietary interview.

5) Individual File

Demographic and socio-economic data; provincial location; clinical blood and urine test results of respondent; dental examination results; analytical results of hair, eyes, lips, tonsils, gums, head, neck, ears, fingernails, skin, arms,

legs, feet, abdomen, skeletal and lower extremities; children diseases; recent illnesses; car accidents; accidental poisonings; nutritional status; burns; operations; data divided into four categories - children less than 6 years, children aged 6-10 years, and males and females aged 11 years and over.

6) Nutrient File

Contains information about the characteristics of a particular food including percentage of water and calories of energy per 100 grams; grams of protein, fat, carbohydrate, fibre, ash, oleic acid, linoleic acid, and cholesterol per 100 grams; milligrams of calcium, phosphorus, iron, sodium, potassium, thiamin, riboflavin, niacin, ascorbic acid, pantothenic acid, vitamin B6, vitamin B12, magnesium, zinc, copper and iodine per 100 grams; file is utilized in order to determine the nutrient intake for an individual.

Survey Frequency:

Once;
September 1970 - December 1972

Population Surveyed:

Cross section of Canadian residents;
1) 12,145 cases
2) 31,255 cases
3) 16,649 cases
4) 19,589 cases
5) 19,590 cases
6) Organized according to food code

To Obtain Data Contact:

Machine Readable Archives Division
Public Archives of Canada
395 Wellington Street
Ottawa, Ontario
K1A 0N3
(613)593-7772

To Obtain Reports Contact:

Pam Verdier
Bureau of Nutritional Sciences
Nutrition Research Division
Health and Welfare Canada
Banting Building, Tunney's Pasture
Ottawa, Ontario
K1A 0L2
(613)593-5542

Health Promotion Directorate;
Health and Welfare Canada

Study Topic:	Consumption of Prescribed Drugs in Canada
Contents:	Questions are asked about the consumption of "prescribed" medications during the last 0-2 days, the last 2 weeks and the last 2 months. The questions are based on the drug list and definitions developed by the Nutrition Canada Survey. The primary goal of the study was to obtain information about psychotropic drugs. Information was collected about the name of the drug and size of dose. Patterns of use were recorded for sedatives, tranquillizers, antidepressants and antispasmodics. Additional information collected includes demographic and socio-economic data; provincial location and community size.
Survey Frequency:	Twice; 1) Canadian Gallup Poll survey, March 1977 2) Canadian Gallup Poll survey, May 1977
Population Surveyed:	1) The March survey is based upon a sample of 1,033 Canadian respondents aged 18 years and over. 2) The May survey is based upon a sample of 1,056 Canadian people, 18 years of age and over.
To Obtain Data Contact:	Machine Readable Archives Division Public Archives of Canada 395 Wellington Street Ottawa, Ontario K1A 0N3 (613) 593-7772
To Obtain Reports Contact:	Dr. I. Rootman Health Promotion Directorate Health and Welfare Canada Jeanne Manse Building Tunney's Pasture Ottawa, Ontario K1A 1B4 (613) 996-4508

Health Promotion Directorate;
Health and Welfare Canada

Study Topic:	Canadian Labour Force Survey: Smoking Habits of Canadians
Contents:	Demographic profiles; labour force status; occupation; use of cigarettes, cigars and pipe tobacco; cessation of smoking; commencement of smoking; brand information.
Survey Frequency:	Annually 1971-1975, 1977, 1979 and 1981
Population Surveyed:	A cross-section of the Canadian population as outlined by the methodology of the Canadian Labour Force Survey.
To Obtain Data Contact:	Machine Readable Archives Division Public Archives of Canada 395 Wellington Street Ottawa, Ontario K1A 0N3 (613) 593-7772
To Obtain Reports Contact:	Wayne Millar Health Promotion Directorate Health and Welfare Canada Jeanne Manse Building Tunney's Pasture Ottawa, Ontario K1A 1B4 (613) 996-4508
	Various smoking surveys were also carried out during 1966-1970; however, these micro-data are not available for distribution because they were collected under the auspices of the former Statistics Canada Act.

Health Promotion Directorate;
Health and Welfare Canada

Study Topic:	Canadian Gallup Poll Cannabis Use Surveys - Adult
Contents:	These surveys contain information about marijuana and hashish use; geographic location and community size; legal aspects of use and trafficing; health risks; risk of being in an accident; demographic and socio-economic information.
Survey Frequency:	Periodic; 1) January 1978 2) June 1980 3) August 1981
Population Surveyed:	1) 1,057 Canadians aged 18 years and over 2) 2,082 people aged 18 years or more 3) 2,012 people 18 years of age and older
To Obtain Data Contact:	Machine Readable Archives Division Public Archives of Canada 395 Wellington Street Ottawa, Ontario K1A 0N3 (613) 593-7772
To Obtain Reports Contact:	1) Irving Rootman Health Promotion Directorate Health and Welfare Canada Jeanne Manse Building Tunney's Pasture Ottawa, Ontario K1A 1B4 (613) 996-4508 2) Walter Saveland Bureau of Tobacco Control and Biometrics Health and Welfare Canada LCDC Building, Tunney's Pasture Ottawa, Ontario K1A 0L2 (613) 996-5562 3) Neville Avison Department of Justice Kent Street and Wellington Street Room 738 Ottawa, Ontario K1A 0H8 (613) 996-7571

Health Promotion Directorate;
Health and Welfare Canada

Study Topic:	Canadian Gallup Poll Cannabis Use Surveys - Adolescents Aged 15-17 Years
Contents:	These surveys contain information about alcohol, tobacco, marijuana and hashish useage; geographic location and community size; legal aspects of use and trafficing; health risks; risk of being in an accident; demographic and socio-economic information.
Survey Frequency:	Periodic; 1) June 1980 2) July/August 1980 3) May 1982
Population Surveyed:	1) 109 adolescents between the ages of 15-17 years 2) 608 adolescents aged 15-17 years 3) 1544 people aged 12-19 years of age
To Obtain Data Contact:	Machine Readable Archives Division Public Archives of Canada 395 Wellington Street Ottawa, Ontario K1A 0N3 (613) 593-7772
To Obtain Reports Contact:	1 & 2) Walter Saveland Bureau of Tobacco Control and Biometrics Health and Welfare Canada LCDC Building, Tunney's Pasture Ottawa, Ontario K1A 0L2 (613) 996-5562 3) Doreen Van Toever Health Promotion Directorate Health and Welfare Canada Jeanne Manse Building Tunney's Pasture Ottawa, Ontario K1A 1B4 (613) 996-4508

Arts and Culture Sector;
Department of Communications

Study Topic:	Survey of Selected Leisure Activities
Contents:	Attendance at a particular cultural or recreational event (i.e. theatre, opera, ballet, musical performance, carnival or exhibition, movie, sports events, visits to museums, art gallery or historic sites); non-attendance leisure activities such as watching television, listening to radio or records, reading, arts, crafts, hobbies, sports and other physical activities; geographic information; demographic and socio economic data.
Survey Frequency:	Three Times; 1972, 1975 and 1978
Population Surveyed:	A Statistics Canada Labour Force Survey methodology was utilized for all three surveys. The 1972 survey was based upon 62,000 cases. The 1975 study was based upon 32,000 cases and the 1978 survey was composed of approximately 20,000 cases.
To Obtain Data Contact:	Michel Durand Education, Science and Culture Division Statistics Canada 16th Floor, R.H. Coats Building Tunney's Pasture Ottawa, Ontario K1A 0T6 (613) 995-9682
To Obtain Reports Contact:	Brian L. Kinsley Research and Statistics Directorate Arts and Culture Sector Department of Communications Journal North - 10th Floor 300 Slater Street Ottawa, Ontario K1A 0C8 (613) 593-4451

Market Facts of Canada Limited

Study Topic:	The Canadian Eating Habits Studies
Contents:	Region; age; sex; household income; population density; season; household composition and in-home/out-of-home preparation; volumetrics for drinks on weekdays vs. weekend consumption; meal composition; daily consumption of various foods and beverages.
Survey Frequency:	Periodic; 1977/1978 and 1982/1983
Population Surveyed:	Households that constitute Market Facts' Consumer Mail Panel; Sample is of 4,000 Canadians aged 3 years and over.
To Obtain Data Contact:	Peter Greensmith or Bruce Emmons Market Facts of Canada Limited 1240 Bay Street Toronto, Ontario M5R 3L9 (416) 964-6262

Pannell Kerr Forster Campbell Sharp

Study Topic:	INFOSTUDY
Contents:	Demographic and socio-economic characteristics, restaurant meal occasion data (i.e. restaurant type, meal period and day of week); correlation of individual behavior to meal occasions; dining out expenditures; foodservice sales volumes data.
Survey Frequency:	Ongoing; 1) 1981 2) 1982 (weekly monitoring)
Population Surveyed:	1) The 1981 study was the result of two telephone surveys that collected information from a nationally representative sample of 4,000 households; 4000-5000 meal occasions were identified. 2) The 1982 survey will include responses from approximately 15,000 respondents. This survey is being conducted on a weekly basis and will result in a group of comparative monthly reports.
To Obtain Data Contact:	Roy Paul Pannell Kerr Forster Campbell Sharp 55 University Avenue, Suite 800 Toronto, Ontario M5J 2K4 (416) 863-1235

Survey Research Centre;
York University

Study Topic:	The Quality of Life Project - Social Change in Canada: Trends in Attitudes, Values and Perceptions
Contents:	Perceived quality of life; social indicators; significant life events; physical, social and economic conditions; individual perception of job, income, housing, neighbourhoods, communities, leisure activities, health, personal and family relations; indicators of personal values and alienation; Canadian attitudes or views about Quebec, national unity, inflation, unemployment, social welfare programmes, immigration, foreign ownership and the distribution of power in Canadian society.
Survey Frequency:	Periodic; 1977, 1979 and 1981
Population Surveyed:	The data have been gathered from sample surveys of the general Canadian public and of selected Canadian decision - makers from a number of institutional sectors. The 1977 survey has a sample size of 3286 respondents. The 1979 survey has a total population of 3475 observations and the 1981 study gathered responses from 3953 people.
To Obtain Data Contact:	John Tibert The Quality of Life Project Institute for Behavioural Research Room 242, Administrative Studies Building York University 4700 Keele Street Downsview, Ontario M3J 2R6 (416) 667-3026
	Results from the 1981 survey will be released in 1983. As a result, these microdata will not be available until such time.

Survey Research Centre;
York University

Study Topic:	Attitudes and Behaviours Regarding the Non-Medical Use of Drugs: A Survey of Canadian Adults
Contents:	Attitudes, opinions, knowledge and behavioural patterns with respect to drugs and drug use; use and related dimensions associated with alcohol, tobacco, solvents, cannabis, tranquillizers, sleeping pills, amphetamines, hallucinogens and narcotic derivatives; demographic, socio-economic and family characteristics; interpersonal relationships; recreation and hobbies; drug related attitudes.
Survey Frequency:	Once; December, 1969 - February, 1970
Population Surveyed:	A 2,748 sample of the Canadian population aged 11 years and over.
To Obtain Data Contact:	Machine Readable Archive Division Public Archives of Canada 395 Wellington Street Ottawa, Ontario K1A 0N3 (613) 593-7772

Survey Research Centre;
York University

Study Topic:	University Students and the Non-Medical Use of Drugs
Contents:	Demographic and socio-economic data; college/university characteristics; attitudes toward higher education and the use of drugs (specifically speed, LSD, marijuana and hashish); respondents use of pep pills, diet pills, sedatives, tranquilizers, sleeping pills, LSD, marijuana, alcohol, speed, codeine, solvents, and other associated drugs; pattern and frequency of use; attitudes toward continuous use or abstinence; availability and legal aspects associated with the various drugs.
Survey Frequency:	Once; December, 1969 - February, 1970
Population Surveyed:	Stratified sample of 1,213 full-time students who are enrolled in a degree granting institution of higher education.
To Obtain Data Contact:	Machine Readable Archive Division Public Archives of Canada 395 Wellington Street Ottawa, Ontario K1A 0N3 (613) 593-7772

Survey Research Centre;
York University

Study Topic:	Secondary School Students and Non-Medical Drug Use
Contents:	Demographic and socio-economic characteristics; Attitudes toward the use of marijuana/hashish, speed and LSD; pattern and frequency of use of pep pills, diet pills, sedatives, tranquilizers, sleeping pills, LSD, marijuana, alcohol, speed, codeine, hashish, solvents, heroin, hallucinogens and other associated drugs; attitudes toward continuous use or abstinence; attitudes about the legal aspects associated with drug use; availability of certain drugs and affects of drug use.
Survey Frequency:	Once; December, 1969 - February, 1970
Population Surveyed:	Consists of a sample of 1,206 students enrolled in grades 7 to 13.
To Obtain Data Contact:	Machine Readable Archive Division Public Archives of Canada 395 Wellington Street Ottawa, Ontario K1A 0N3 (613) 593-7772

Institute of Public Affairs;
Dalhousie University

Study Topic:

1) The Halifax Dartmouth Time Budget Study (DOMA - Dimensions of Metropolitan Activities: Time, Space and Attitudes)

2) Halifax Panel Study

3) National Time Use Pilot Study

Contents:

These surveys contain information about the respondent's activities over a 24 hour period. They include demographic and socio-economic data; transportation, recreation, housing, health and educational service information; sleeping, eating and drinking data; specific time activity information multiple activity data; spatial linkage data; wholesale and retail trade information.

Survey Frequency:

Twice;
1) October, 1971 - May, 1972

2 & 3) Both studies were conducted during 1981

Population Surveyed:

1) Random sample of 2141 respondents from the cities of Halifax and Dartmouth, as well as people selected from the Halifax/Dartmouth hinterland. The design of this study is fully comparable with that of the Multinational Time-Budget Project.
2) Approximately 470 people from the DOMA study were randomly resampled
3) 2866 people were sampled from 11 major cities and 3 rural subdivisions across Canada

To Obtain Data Contact:

1 & 2) Andrew Harvey
Institute of Public Affairs
Dalhousie University
Halifax, Nova Scotia
B3H 3J5
(902) 424-3734

3) Brian Kinsley
Research and Statistics Directorate
Arts and Culture Sector
Department of Communications
Journal North - 10th Floor
300 Slater Street
Ottawa, Ontario
K1A 0C8
(613) 593-4451

Arts and Culture Sector;
Department of Communications

Study Topic:	Cultural Participation in 18 Canadian Communities
Contents:	Socio-economic background; attendance activities (ie. theatre, festival, sporting event, art gallery, opera, ballet, cinema, museum etc.) activity attitude information; participation in sports, singing, playing a musical instrument, dancing, acting, crafts, painting or other hobby; exposure to television, radio, records, tapes and cassettes; leisure reading activity; public library attendance; community activities.
Survey Frequency:	Once; 1978
Population Surveyed:	Random survey of 13,006 people located in Quebec, Que.; London, Ont.; Edmonton, Alta.; Victoria, B.C.; Moncton, N.B.; Fredericton, N.B.; Chicoutimi, Que.; Trois Rivieres, Que.; Drummondville, Que.; Cornwall, Ont.; Barrie, Ont.; Brandon, Man.; Moose Jaw, Sask.; Corner Brook, Nfld.; Summerside, PEI.; Truro, N.S.; Rimouski, Que.; Edmundston, N.B.
To Obtain Data Contact:	Brian Kinsley Research and Statistics Directorate Arts and Culture Sector Department of Communications Journal North - 10th Floor 300 Slater Street Ottawa, Ontario K1A 0C8 (613) 593-4451

Department of Statistics;
University of Waterloo

Study Topic:	The 1978 National Survey of Smoking Habits of Canadian School Children
Contents:	Demographic information; rates and levels of consumption; consumption pattern of current smokers; onset of smoking; smoking habits of parents, siblings and peers; beliefs concerning the health effects of cigarette smoking.
Survey Frequency:	Once; February, 1978
Population Surveyed:	Approximately 106,000 school children in grades 3 to 13 from 384 schools across Canada.
To Obtain Data Contact:	Dr. W.F. Forbes Department of Statistics University of Waterloo Waterloo, Ontario N2L 3G1 (519) 885-1211 Ext. 3468

4. SMOKING AS A RISK FACTOR - THE CURRENT SITUATION

W.F. Forbes and M.E. Thompson
WHO Collaborating Centre for Reference
on the Assessment of Smoking Habits,
Faculty of Mathematics
University of Waterloo
Waterloo, Ontario, Canada N2L 3G1

1. Introduction

In reviewing the present status of research in the area of smoking, and in identifying appropriate strategies, it is aimed first to summarize what has been established, and then to delineate important questions which should be taken into account in the planning of future research investigations. Hence, this paper will be divided into four headings: the first will cover the salient findings in the area (section 2); next, outstanding questions will be discussed in terms of their priority (section 3); in section 4, some methodology will be outlined; and in section 5, suggestions will be made concerning appropriate strategies which may be used to complete needed research.

2. Salient Findings

2.1 Health Consequences of Smoking

The health consequences of cigarette smoking are firmly established and have been documented in a number of authoritative publications. Although there are still some areas which require further elucidation, such as the effects of passive smoking and the effect of cigarette smoking on the

offspring of smokers, the evidence is now available that the cigarette poses a very major risk to health.

If the importance of risk factors is judged on the strength of the evidence on the side of a cause-and-effect relationship, on the magnitude of the effect on mortality and/ morbidity, and on the number of individuals who are affected, then cigarette smoking represents a more important risk factor than most other risk factors which have received intensive investigation, including diet, physical inactivity, alcoholism, etc.

2.2 Development of a Less Hazardous Cigarette

There is evidence that some cigarettes are less hazardous than others, but it is not known with any degree of certainty whether any type of cigarette is relatively safe, since the actual constituents, or combinations of constituents, which give rise to the various smoking-related diseases have not been identified. It might be expected that a cigarette which delivers less "tar" to the smoker will generally be less harmful. However, because of its mildness such a cigarette may be more readily adjusted to; hence, for example, young people might find it easier to acquire the habit of cigarette smoking by being introduced to the habit through one of these less harmful cigarettes. It also seems certain that the effect on health will vary depending on the manner in which a cigarette

is smoked. At the present time, the best advice to give smokers is still to quit smoking entirely[1].

2.3 Economic Consequences

Some information is available about the economic aspects of smoking. For example, it is known that increased taxation will give rise to reduced smoking[2], and some work has been done on the relative financial attractiveness of alternative crops compared with tobacco[3]. Also, several studies have addressed the overall effect on smoking on the economics of a country[4].

2.4 Educational Programmes

A number of educational programmes have been developed to discourage smoking[6,7,8]. The aim of such programmes is to motivate people to avoid voluntary exposure to high-risk activities such as smoking. One method emphasizes the levels of risk, on the theory that many individuals may not rate risks in terms of the number of fatalities which they cause, and may perceive a familiar activity such as smoking as being less risky than involuntary exposure to unfamiliar pollutants and additives in food, air, water and the work place. Evaluation of the different methods is still in progress.

2.5 Tobacco Advertising

Although studies which quantify the effect of cigarette advertising on consumption patterns are not available,

the importance of advertising is generally acknowledged[5]; hence, there is little question that tobacco advertising plays an important role in both initiating and maintaining the habit of cigarette smoking. Although the method of dealling with advertising is presumably appropriate legislation, there appears to be a reluctance in some countries to implement any legislation which would ban the advertising of cigarettes.

The above five items have been discussed thoroughly in the various reports of the U.S. Surgeon General, in the reports of the WHO Expert Committee, and in the report of the Royal College of Physicians (see references 6-8).

3. Research Priorities

There are important questions which remain to be answered in all five of the areas identified above. However, from an action oriented standpoint, less work is required in the area of health consequences, since the available (and increasing) weight of evidence justifies assuming a cause and effect relationship.

Similarly, although the evidence is not as comprehensive as for some of the other areas, it can be assumed that a ban on advertising would contribute to curtailing cigarette consumption. There are some unanswered questions with respect to this; for example, the precise relationships of advertising, consumption and the strategies employed by the cigarette

companies are not entirely clear. However, the main question is whether it is politically feasible to implement a ban on advertising, as has been done for example in Finland. Thus perhaps additional research may not be required except in the area of legislative action. Hence, this area also may be given lower priority as far as research is concerned.

In increasing order of priority one might consider the development of a less hazardous cigarette; but again, a high priority is not justified for this area, since it is most unlikely that even a relatively safe cigarette can be developed in the near future. A safe cigarette probably does not exist. Of more importance are questions concerning the influence of different types of lower tar cigarettes on smoking patterns.

This leaves two areas. One is the evaluation of educational programmes, in order to determine for example whether a one-to-one approach is most effective, or whether a strategy should be based on an appeal to fear of cancer, economic considerations, or a sense of the quality of life. The appropriate strategy may well vary for different age groups, for different social classes, and for different countries. The other area of high priority is the general question of economics. Subareas include taxation, the question of alternative crops, and the overall perception of the economic benefits and losses associated with cigarette smoking. Relatively little is known about these areas, which are fundamentally important

for public policy.

4. Methodology

If it is assumed that the areas identified in the previous section, that is the economic consequences of smoking and the evaluation of education programmes, can be regarded as the most important areas, it seems important to discuss the relevant methodologies.

4.1 Effect of Taxation on Consumption

The effect of taxation on consumption is estimated by price elasticities, which provide an indication of how price affects consumption of a product when other variables remain constant. Some work has been done on overall price elasticities (see reference 2), but it would be valuable to have information on price elasticities for different subgroups of a population, for example, for children, for males and females, and for different cultural groups. Of particular importance would be the price elasticities for children, since children may well be considered a high priority in implementing anti-smoking campaigns. It is also important to determine short-term and long-term price elasticities, since the effect of increased taxation may well vary substantially in the short and long run.

4.2 Differential Taxation

Taxation can also be used to reduce the demand of specific tobacco products. It has not often been used in this way, although this may well represent a fruitful approach.

For example, different levels of taxation might be imposed on cigarette products depending on their estimated health hazards; in this way, cigars and pipe tobacco and cigarettes containing a longer non-smokeable portion (butt) may be taxed less heavily. However, differential taxation represents a controversial issue. For example, if pipe tobacco is taxed less heavily than cigarettes, individual smokers may change from cigarette smoking to pipe smoking; this may be unfortunate, since it is known that at least in some instances when a cigarette smoker changes to pipe smoking, he tends to inhale in a similar way as was his habit when smoking cigarettes; hence, the health consequences may be serious. Differential taxation may suffer from a further disadvantage; when New York City tried to implement such a system, it apparently failed, since retailers found the system cumbersome.

4.3 Alternative Crops

The question of alternative crops to tobacco is an important one in countries where tobacco is grown. In many countries, such as Canada and the U.S., substantial price subsidies are available for the growing of tobacco. If in future serious attempts are made to phase out tobacco, or not to encourage the development of additional tobacco growing farms, it would be important to be able to devise a system to encourage the growing of alternative crops which show a comparable margin of profit. This is an area where much work needs to be done. For example, figures should be determined for various crops in

terms of net profits per unit of land. In fact, the available data are frequently not presented in this way. It is also important to investigate trends in the economic impact of growing various crops in terms of the employment they provide.

4.4 Benefits and Losses

A number of papers have appeared which analyse the benefits and losses associated with cigarette smoking. This also is an important area, since it is widely believed that smoking, from an economic point of view, represents a distinct advantage. A number of papers which have appeared contradicting this view can unfortunately be faulted on methodological grounds, and it would be useful to have an authoritative and correct statement, which would provide a balance sheet of the benefits and losses associated with smoking. Some attempts have been made along these lines (see references 4 and 9) and these also suggest that smoking is economically disadvantagous to Canadian society.

With respect to the evaluation of education programmes, such as cessation programmes involving a course of lectures, or face-to-face interviews with a persons general practioner, this is a continuing project, and the important point is that any educational and informational programmes should be evaluated. Also, such evaluations should be carried out on a long-term basis, and should be carried out for different subgroups of a population, since as pointed out under section 3 , different

subgroups of a population may well respond differently to various educational campaigns.

5. Strategies to Complete Needed Research and to Make Appropriate Smoking and Health Activities More Effective

It is asserted in this paper that many of the important research questions in smoking and health can be regarded as having been answered. However, as is also pointed out, there are some major unresolved questions. Perhaps the main difficulty in proceeding with much of the work, in the economic aspects for example, is that it requires a multidisciplinary approach. The consequence for funding is that there is not always an appropriate agency to sponsor the required research; many of the Health Agencies, for example, do not have the appropriate review structure to deal adequately with proposals for work on economic or social aspects. Hence, one strategy which might be useful would be for one multidisciplinary agency to assume the responsibility for the funding smoking and health research. Such a funding agency would have to employ experts in the various relevant areas, including medicine, tobacco science, economics, political science and research methodology.

Another strategy is to involve the agencies of more than one country, since in many instances, what happens in one country affects another country also. A well-known instance is the pricing of cigarettes; for example, at one time, cigarettes were considerably cheaper in the U.S. than in Canada,

and extensive smuggling of cigarettes occurred. Consequently, any policy affecting the pricing of cigarettes is best carried by more than one jurisdiction to avoid large discrepancies in the actual price paid for cigarettes by the consumer. More generally, only a concerted campaign will presumably reduce appreciably the world-wide demand for cigarettes, since as long as a demand for cigarettes exists in one part of the world, it seems likely that some country will be prepared to grow the tobacco and fill the demand.

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3. Adams, Frank. Vegetable and Fruit Crops: Viable Alternatives for Tobacco Farmers. In: The Tobacco Industry in Transition (ed. W.R. Finger), Lexington Books, Toronto, 1981, p. 93.

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5. UTILIZATION OF PREVENTIVE SERVICES[1]

Malcolm S. Weinstein, Ph.D.
Director of Health Planning
City of Vancouver Health Department
and University of British Columbia

This expanded outline includes comments and issues raised by workshop participants upon the use of existing primary data bases for secondary analyses. In addition to reviewing major content issues and research studies in the area of preventive service utilization, I will identify methodological and logistical issues as well as research strategies which might be useful in the future.

Content Issues

Issues vary in the amount and nature of research devoted to them. By far the most research has dealt with the determinants of preventive service utilization (both under and over-utilization) and how to increase utilization rates. An emerging issue deals with the nature of preventive services themselves; what exactly do we mean by preventive services in light of shifting paradigms of health and disease? For example, to many researchers "preventive services" refers to those services commonly provided by the traditional medical establishment and aimed at the prevention or early identification of disease: immunization or vaccination, antenatal or prenatal care, family planning,

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1. This paper was presented in outline form to a workshop on Disease Prevention and Health Promotion Research, co-sponsored by Health and Welfare Canada and the U.S. Department of Health and Human Services held in November 1982, Montreal, Canada.

multiphasic or single disease screening (for example, chest x-ray or mammography), well-baby examinations (height and weight), and physical or health examinations. Generally these services are provided to individuals or families and may be contrasted with those which are preventive but publicly consumed, such as water supply inspection, air pollution control, occupational health and safety services and so on (Zupkoff and Dunlop, 1974).

However, in recent years our notions of preventive service have been shifting in response to newer conceptualizations of health and disease. Since the publication in 1974 of "A New Perspective on the Health of Canadians" (Lalonde, 1974) and the U.S. Surgeon General's report "Healthy People" in 1979, both public and private health service providers have begun to offer services which recognize changing emphases from unifactorial causes and infectious disease to multifactorial causes and chronic disease. In particular we see more and more attention given to the influence of unhealthy lifestyles and hazardous environments. Thus, "preventive services" increasingly refers to services such as smoking cessation, alcohol and substance abuse education, stress management, nutrition analysis and counselling, health risk appraisal and so on. While many of these services appear well-founded scientifically and are being incorporated into existing medical care practices and hospital settings, others require further research as a basis for their acceptance or rejection. The focus of this review is on the utilization of traditional "preventive services".

Determinants of Preventive Service Utilization

Most studies in this area are retrospective and deal with correlates of utilization/non-utilization among registrants of an insurance plan or respondents and non-respondents to screening programs. Such studies provide no firm basis for inferring causation but do provide hypotheses which can be tested in prospective studies. In general, the data indicate that preventive service utilization is positively correlated with income and education and negatively correlated with age. Geographic location is also important; while people will travel fairly long distances to use specific curative services, they will not do so for general preventive ones (Tyroler, Johnson, and Fulton, 1965; Bruhn, 1969; McKinlay, 1975; Marcus, Reeder, Jordon, and Seeman, 1980;).

Demographic factors such as age, sex, income, ethnicity, geographic location and socioeconomic status are good predictors of utilization rates. In fact, demographic, psychosocial and system or structural characteristics consistently emerge under various labels as key groupings of utilization correlates (Rosenstock, 1966; Zubkoff and Dunlop, 1974). Psychosocial factors include health beliefs (Haefner and Kirscht, 1970; Tirrell and Hart, 1980; Weisenberg, Kegeles and Lund, 1980; Lewis and Lewis, 1982; Mikhail, 1982; Roseblum, Stone and Skipper, 1982), attitudes, personality factors and child rearing practices (Mechanic, 1964; Bruhn, 1969; Pratt, 1973; Kasl, 1974; Adjaye, 1982).

Finally, structural correlates of utilization include culture, norms, values, access, cost and marketing practices (McKinlay, 1975; Cummings, Becker and Maile, 1980; Marcus, Reeder and Jordon, 1980).

Americans are beginning to change their habits in relation to use of preventive health services. According to a recent U.S. review by Makuc (1981) covering the period from 1973-79, changes have taken place in relation to the use of the PAP test, breast examinations and blood pressure tests. Data are based on surveys from the National Centre for Health Statistics - The National Health Interview Survey (NHIS) and The National Survey of Personal Health Practices and Consequences (NSPHPC).

PAP Test - The percentage of women with PAP tests increased during the years 1973-1979, particularly more for black than for white women and for middle-aged (45-64) than for younger women (20-44). Younger low income women in both 1973 and 1979 were an average of 7 percentage points less likely than their high income counterparts to have had a PAP test.

Breast Cancer Screening - A greater proportion of women received breast examinations in 1979 than in 1973. The rate increased more for black than for white women and for middle aged (45-64) than for younger women (20-44). Low income women were still less likely in 1979 to receive breast examinations than were high income women.

Hypertension - The proportion of persons screened for hypertension also increased between 1974 and 1979. Among mem 20-44 years of age, all income groups increased their blood pressure test rates by an average of 13 percentage points. Race and income were more highly correlated with utilization for women in this age group, e.g. the rate of testing increased more among black women than white and more among low than high income women.

In general, people used each of the three preventive services at increased rates over the period 1973-1979 although the likelihood of receiving preventive care still continued to vary according to income and to sex. Changes in use may be the result of increased recognition of the importance of disease prevention, specific hypertension programs initiated during the 1970's, such as the National High Blood Pressure Education Program and the Community Hypertension Evaluation Clinic Program, increased accessibility to preventive services by the poor and medically underserviced, increased availability of community health centres, or the fact that subsidized family planning services include the three preventive services mentioned. Despite the overall improvements noted, the review shows that low income people are still less likely to use preventive services than are those with higher incomes.

The second major utilization issue has to do with making those services available and accessible to the public. Investigations of alternative marketing strategies

and their effectiveness (Alexander and McCullough, 1981), ways to target potential consumers or preventive services (Pender and Pender, 1980), and the value of integrating curative and preventive services (Tirrell and Hart, 1980; Weinstein, 1982; Weinstein, Taylor, Nelson and Marshall, 1982) are relevant.

Within a communications framework, a number of marketing studies have dealt with the form (Wallack, 1981) and content of marketing messages (Scott-Samuel, 1980; Strax, 1980) as well as the characteristics of message senders, especially the physician and his/her effectiveness or ineffectiveness in this role (Reader, 1974; Jonas, 1982; Goldfinger, 1982).

Finally, marketing studies have examined compliance with medical advice and the relationships between compliance and the preceding topics (Warner, 1979; Haynes, Taylor and Sackett, 1979).

Evaluation

A major concern for preventive service utilization researchers has been with service effectiveness. In particular, evaluation studies examine relationships between the provision of preventive services and their impact on attitudes and beliefs, preventive behaviours, and health status. These studies have in common an interest in the relative costs and effectiveness of preventive services (Green, 1974; Kristein, 1977; Warner, 1979; Mullen and Zapka, 1981; Wallack, 1981) and

for specific target populations defined in terms of cultural or ethnic characteristics (Ulin and Ulin, 1981) or in relation to specific health service providers (Goldfinger, 1982).

Methodological and Logistical Issues:

The following section discusses some major methodological issues which have been previously identified and continue to be important in developing solid research strategies on the utilization of preventive services. The discussion is followed by a framework which might be used to organize future research.

Are today's research concerns very different from those outlined by McKinlay (1972) ten years ago (to which I have added several)? Participants may wish to review data bases such as those listed below in the light of the research concerns which follow:

- HMO suscribers lists (U.S.)
- National Health Surveys (U.S. and Canada)
- Provincial Health Insurance Plans (Canada)
- Third party insurance plans
- Canada Fitness Survey
- Large scale epidemiologic trials
  - Framingham

- Stanford Three Community Study
- Pawtucket Heart Disease Prevention Project
- L.A. County Survey
- Proposed surveys (e.g. Canada's Health Promotion Survey)

(1) **poor quality of utilization data** - inaccessibility, poor reliability, lack of linkages, and incomplete records;

(2) **sampling problems** - non-representative samples in the case of utilizers only, lack of multiple or representative geographic sites where insurance plans cover only one population or segment of it;

(3) **lack of data on quality of service** - most health insurance plans are designed to facilitate billing, not to study the effectiveness of services (there may be some exceptions);

(4) **reliance on retrospectivity** - the research limitations of retrospective recall are well known (inaccuracy of recall, the distorting influence of current behavior on the recall of previous behavior or beliefs);

(5) **inattention to the decision making process** - the focus on a static decision to seek care as opposed to the process of decision -making, or the relative weighing of alternatives for decision making;

(6) **labelling or blaming the victim** - the tendency to label on non-utilizers as inadequate, lazy or unmotivated instead of examining problems in marketing strategies and/or social structures which act as barriers to service, or the question of whether the service is valid in the first place;

(7) **ignoring the form of service** - the fit, if any, between the form of services and the values and normative systems of target subgroups;

(8) **preventive vs. curative service utilization** - often difficult to tease apart in existing data bases; are determinants different? The preventive "product" defined by provider/funding agent;

(9) **restrictions in age of target populations** - exclude or de-emphasize children, exclude or lump together those 65+;

(10) **restrictions in data bases** - seldom include variables related to agent, host and environment, (see Section III); most insurance data bases established for billing purposes only;

(11) **restrictions in perspective** - preventive services defined by providers, seldom consumers;

(12) **inadequate data linkage** - preventive services, preventive behaviors, cost-effectiveness data seldom included in same data base or linkable.

Research Strategies:

A heuristic framework for studies of utilization rates can be formed by crossing the traditional public health triad of agent, host, and environment with Green's (1974) health education triad of predisposing, enabling, and reinforcing factors (see Figure 1).

Agent Factors

The focus of agent factors is on the communication process: the messages provided to potential users of preventive services, the form of those messages (including the use of media), and the characteristics of the communicators. Research in this field deals with communication theory and methods, health education, instructional design, and their relative impacts on health beliefs, attitudes and knowledge. An emerging trend is the recognition of the relevance of social marketing research to successful health promotion (Shirreffs, 1978; Scott-Samuel, 1980; Alexander, McCullough, 1981; Wallack, 1981; Alderman, 1980).

Within the matrix we can focus on predisposing factors, such as physician's health habits and personal utilization patterns (Goldfinger, 1982); enabling factors such as forms of instructions or methods of communication (Haynes, Taylor, Sackett, 1979; Alderman, 1980; Tirrell, Hart, 1980) or reinforcing factors such as communication patterns and reward systems for compliance (Alderman, 1980).

Agent factors correspond closest to McKinlay's (McKinlay, 1974, 1975) "organizational" or "delivery systems" category. For example techniques to improve physician compliance with guidelines for preventive activities have been studied. For example Cohen, Littenberg, Weitzel and Neuhauser (1982) reported short-run effectiveness of an intervention involving the appendage of age-

specific checklists of all recommended preventive procedures drawn from the Canadian Task Force report on the periodic health examination and guidelines published by the American Cancer Society on patient charts in combination with weekly seminars dealing with screening issues. Both mamography and immunization rates increased significantly (from 2 - 40%) in intervention clinics as compared with control clinics.

Host Factors

Some sociologists and most psychologists focus almost exclusively on host factors in accounting for utilization of preventive services (Shirreffs, 1978; Christodoulou, Clarke, Buchanan, 1981; Mikhail, 1982). In general, host factors include health beliefs (Weisenberg, Kegeles, Lund, 1980; Tirrell, Hart, 1980; Mikhail, 1982), personality traits, group membership, and biological characteristics. One recent review lists 99 different host factors culled from 14 health belief models (Cummings, Becker, Maile, 1980). Host factors correspond to McKinlay's "socio-demographic" and "social-psychological" approaches (McKinlay, 1974/75).

Environmental Factors

Environmental factors focus on the marketplace itself - the influence of health services and their accessibility (cost, geographic location) and of the cultural and

social context, on utilization (Alexander, McCullough 1981). These studies, may be subclassified in terms of demographic, cultural, and social support factors (Mechanic, 1964; Pratt, 1973; Ulin, Ulin, 1981; Lewis, Lewis, 1982; Morgenstern, Bursic, 1982).

In general the data indicate that utilization of preventive services is positively correlated with income, negatively correlated with age, and positively correlated with education. While people will travel fairly long distances to use specific curative services, they will not do so for more general preventive ones (Tyroler, Johnson, Fulton, 1965; Bruhn, 1969; McKinlay, 1974/5; Marcus, Reeder, Jordan, Seeman, 1980).

In addition, recent research on social networks and their influence upon both health and behavior and mortality provides a solid basis for claims that strong social support systems can affect health actions (Adjaye, 1981).

Other issues

1. How can we use our knowledge about utilization rates of preventive services to reduce the utilization of harmful services and harmful behaviors? McKinlay has tackled these issues in his paper on "The Political Economy of Illness", (McKinlay, 1974, 1975) while Hancock (1982) has emphasized the role that the non-health sector plays in determining health

and illness patterns. Environmental factors correspond to McKinlay's "economic", "geographic" and socio-cultural" approaches (McKinlay, 1974, 1975).

2. Are preventive services necessary in the first place? Or, as some more radical critics would argue (McKinlay, 1975), does the fact that we need preventive services for health problems which are clearly preventable through societal or structural changes suggest the need for service providers to take a much more active role in social change itself (Warner, 1979; Borman, Borck, Hess and Pasquale, 1982; Hancock, 1982).

It should be noted that these so-called "meta-issues" dealing with the nature of preventive services and their necessity captured a great deal of attention in our workshop and illustrated quite clearly the shift in perception taking place at this time.

FIGURE 1

UTILIZATION OF PREVENTIVE SERVICES

Conceptual Framework*

Epidemiologic Factors / Health Education Factors	Agent	Host	Environment
Predisposing (awareness)			
Enabling (access)			
Reinforcing (support)			

* Cells may contain examples of research studies, summaries of results, examples of each factor, and so on.

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6. LICIT DRUG USE:

AN OUTLINE PAPER PREPARED FOR

SEMINAR ON HEALTH PROMOTION

AND

DISEASE PREVENTION RESEARCH

Montreal 11-12, 1982

Ruth Cooperstock

Addiction Research Foundation

33 Russell Street

Toronto, Ontario

Canada

In this paper, studies of psychotropic drugs marketed for legitimate therapeutic use are brought together for purposes of review and assessment of the prevalence and patterns of use and identification of further research needs. It is not the intention to make the review completely comprehensive, but rather to select studies, predominantly from the English language literature, which can serve as examples of the kinds of approaches which have been taken to date. After examining the extant data base we shall then identify deficiencies in the current state of knowledge, and recommend research projects which would provide a basis for the assessment of social and public health problems which may be associated with the use of these drugs. The various methodologies currently used to assess consumption patterns will be evaluated, as will their appropriateness for future investigations utilizing this public health approach.

The studies described here have been deliberately selected to represent a broad range of methods of assessing prevalence and patterns of use. Separate tabular data will be presented for the United States, Canada, and a number of European countries including the United Kingdom.

The various studies outlined in the hand out are representative of the types of research conducted to date. Such studies have provided us with basic data on the patterns and prevalence of licit psychotropic drug use. They have documented the existence of certain marked and consistent variations in drug use among particular populations; most notably, that females receive twice as many such prescriptions as males, and that drug use is higher among older age groups.

For example, it is clear that drug-related auto accidents constitute a public health problem as do suicide and overdose. We would suggest that social consequences of psychotropic drug use can also be studied through an examination of reduced coping skills evidenced by greater lassitude or learning impairment, which may prevent the subject's recognition of, and attempts to alter, situational problems relating to family life, work, housing problems, and so forth.

Additionally, should we not consider diminished family interaction or lowered self-esteem following prolonged use of psychotropics in the same way?

Since it has been demonstrated that some benzodiazepines may elicit rage reactions, probably due to their disinhibiting effect, what is the impact of consumption on the frequency of violent behaviour such as homicide, suicide, child abuse, assault charges, etc. This may be a particular problem where nutritional levels are low and these drugs readily available.

Data should be collected utilizing an agreed-upon formulary or classification system to ensure comparability. Given the current knowledge of the pharmacological effects of drugs, distinctions should be made between drug types within large classes, e.g. 'sedative-hypnotics', since it is by now clear that some drugs may be more problematic than others.

and negative consequences as observed by the user, family members and physicians. This method of data gathering could be combined with the acquisition of other data, e.g., health records, as would be necessary to conduct such a study as described below.

Prospective, longitudinal studies of high-risk populations are required which can examine life stresses, e.g., social, emotional and health problems which may potentially lead to psychotropic drug use. This data must be linked to social history and especially to health behaviours (physician visits, use of psychotropic and other medications). The study should continue over a period of sufficient length to assess the social and public health consequences of drug use.

Studies are required on the economic cost to the health care system of the use of particular classes of psychotropic drugs, e.g., benzodiazepines. Studies of drug use patterns in localities with different health care systems are required as initial baseline data to assess costs to the individual and to society. For example, comparisons should be made between countries or other geographic areas in which physician visits and/or prescription payments are covered vs those in which such costs are borne by the individual. Once these costs are established then various measures of social and public health costs resulting from drug use can be determined and added.

What follows is a description of the major methods currently used to assess extent and patterns of psychotropic drug use.

Crude Sales Data

Prescription Registry Data for Total Populations

Prescriptions Dispensed Through Insurance Registries Covering Specific Population Sub-groups

Prescriptions Dispensed Through Pharmacies

Surveys, National and Cross-National

Surveys of Selcted Populations, by Region, Sex, age, etc.

Physician Practice Prescription Records as Data Base

Institutional Records as Data Base for Populations in Hospitals, Prisons, Nursing Homes

Natural History or 'Naturalistic' Studies of Patterns of Use

There are , unfortunately, compelling pharmacological and methodological reasons not to rely on self-report data alone for assessment of licit anti-anxiety or sedative-hypnotic drug use.

Pharmacological: regular use (equivalent of small, 10mg) daily dose of diazepam has been shown to impair memory - so regular users, most at-risk of problematic consequences, will be likely to underreport not only because of stigma but also poor memory. Additionally, the problem of memory is compounded by two other factors. Because of their higher levels of chronic illness and other problems associated with aging, the elderly are the highest consumers of prescription drugs generally and psychotropics in particular. It has been established that the more drugs used the poorer the recall. Thus

sedative drugs. This recent study suggests their use in Spain is as high, if not higher, than most of the other countries studied.

To conclude, it seems clear that health promotion and education can best be served by valid, as well as reliable data bases and these can best be achieved through concurrent utilization of multiple data sources.

7. SURVEYS OF FITNESS AND PHYSICAL RECREATION PATTERNS*

Thomas Stephens
Canada Fitness Survey
Ottawa, Canada

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to the
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INTRODUCTION

This paper is one of a series reviewing US and Canadian surveys of health behaviors. In addition to the traditional review functions of seeking consistency of findings and identifying methodological shortcomings, the reviews in this series deal with the problems and potential of secondary data analysis within a topical area.

It is probably safe to assert that large population surveys are under-exploited as regards secondary analysis, and always have been. It is probably even more safe to predict that, as long as current economic conditions continue, funding for new surveys will be difficult to obtain. This could be turned to advantage, however, by the thoughtful and systematic re-analysis of existing data bases. This should help ensure that those new surveys which are carried out will actually ask the important questions, and do so in an unambiguous manner. Such has not always been the case in the past, as illustrated by the brief review of findings which follows.

Eight surveys conducted in the last ten years in the United States and Canada are considered in this review. To qualify for inclusion, they had to: (a) deal at least in part with the topic of physical recreation patterns and/or physical fitness, (b) be based on general population samples that were national in scope, and (c) be available in machine-readable format, with appropriate documentation to support secondary analysis. In chronological order, the surveys are:

1. the 1972 National Adult Physical Fitness Survey of the President's Council on Physical Fitness and Sports

2. the 1976 Survey of Fitness, Physical Recreation and Sport carried out for Fitness and Amateur Sport Canada (F&AS)

3. the 1978 Canada Health Survey (CHS)

4. Perrier's 1978 study of Fitness in America

5. General Mills 1978 American Family Health Report

6. the NCHS National Survey of Personal Health Practices and Consequences (NSPHPC) in two waves (1979, 1980)

7. the PARTICIPaction polls in 1979 and 1982

8. the 1982 Canada Fitness Survey (CFS).

The significant omissions from this review are those surveys restricted to individual states or provinces. Fortunately, these have been reviewed elsewhere (9).

In this review, major findings will be summarized, concentrating on participation levels, participant profiles, activity preferences, reasons for and barriers to participation, associated behaviors and health consequences. Questions appropriate to further study via secondary

analysis will be discussed, and methodological, logistic and conceptual hurdles will be identified, with suggestions for future research strategies.

MAJOR FINDINGS

A. Participation Levels

Statistics on the population's participation in physical recreation activities are essential to gauging the extent of the "fitness boom" and identifying areas of potential future growth. Unfortunately, there is little consistency in our surveys in the key definition of "active", making it all but impossible to establish any trend over time. Only two surveys have been repeated with the same question wording on activity (PARTICIPaction and NSPHPC), and the two waves of the latter were separated only by one year and were not intended to monitor trends. The Canada Fitness Survey did use a question wording sufficiently similar to the Fitness and Amateur Sport survey to permit some comparisons, but care is required because of different age coverage and different definitions of "limited ability to participate" which in turn affected the definition of "active".

Most surveys have relied upon frequency of activity in defining the active population, and this has ranged from participation at least once in the last 12 months (F&AS, CFS) to a minimum of two or three times per week (PARTICIPaction). Naturally, the results vary accordingly,

as shown in Appendix 1, from a high of 68% of the population to a low of 25%. Three surveys (CHS, Perrier, CFS) have defined the active population by incorporating the dimensions of intensity and duration along with frequency. While most complex, e.g., (10), this approach provides the most meaningful definition, inasmuch as most experts agree that fitness benefits accrue most reliably from an activity pattern of adequate frequency, intensity and duration.

While generalizations are perilous because of these definitional problems, the different ages covered in the various surveys, and the variety of data collection methods, it appears that approximately one-third of the population is physically active to a level that is potentially beneficial, while another third participates on an occasional basis. As for changes over time, the PARTICIPaction surveys indicate a growing active population; this appears to be supported by comparisons between the CFS and the F&AS survey.

B. Participant Profiles

Despite the widely held belief that physical recreation is increasingly common in the US and Canada, the available evidence indicates that the fitness boom is concentrated in certain segments of society. The durability of this conclusion is attested to by the fact that it emerges from surveys conducted at different points in time with widely varying definitions of "active".

Regular participants in exercise are typically from younger age groups (all surveys except NSPHPC, which has not reported on this), although General Mills found that regular exercisers are both very young and over 65 years. There is also a high probability that regular participants have more education (1,2,8), higher levels of income (1,2,4,5,8), and higher occupational levels (2,3,8). The PARTICIPaction surveys, however, indicate that the gap between higher and lower socio-economic groups has narrowed in recent years.

Suburbanites (4,5) and residents of the Midwest or West (2,4,8) are also reported to be active, but it is not clear whether this holds true independent of socio-economic status, although CFS found that age does not explain the relationship between activity and living in the West.

C. Popularity of Activities

The trends in activity preferences are of concern to facilities planners and equipment suppliers, and seem to be of passing interest to almost everyone else. Walking, swimming, bicycling, calisthenics and jogging are popular in both the US and Canada, consistently claiming the largest numbers of participants (1,2,4,8). Other activities also rank high, but only in one country: bowling and softball are common in the US (1), while ice skating, tennis and golf are Canadian favorites (2,8). Drastic changes in the near future in activity popularity seem unlikely, since the CFS found in 1981 that swimming, jogging, calisthenics, tennis and cycling are the activities most people would like to begin.

Given all the problems of defining a participant, it is difficult or impossible to accurately monitor changes in preferences over time, however, one recent review (9) has made a good effort at this.

D. Barriers, Motives, Influences

The sponsors of most of these surveys had a distinct interest in physical exercise and physical fitness, and many probably wished to at least witness, if not actually produce, an increase in participation levels. For those seeking to promote fitness and activity, knowledge of barriers, motives and influences is obviously useful. This being the case, it is surprising that more systematic study of the determinants of activity has not taken place.

Once again, definitional differences appear to preclude generalizations and yet consistencies do emerge. Perrier and General Mills, for example, asked about barriers only if respondents believed they exercised too little; the other surveys asked all participants. Similarly, these two surveys probed reasons for not receiving adequate amounts of exercise, while the others questioned the obstacles to starting an activity.

Lack of time appears consistently (2,4,5,8) as a reason for low activity levels, and work pressures are cited specifically in two cases (2,8). Cost does not appear to be a significant barrier.

Improving one's health, feeling better or simply having a good time figure prominently as reasons for participating in physical activities (1,2,8). A doctor's advice is the least common reason reported for current involvement (2,8), but the factor most likely to persuade inactive people to begin an activity program (4), and the only one to increase in importance with age (8).

The example of parents, their attitude toward being active, and family pressures and preferences generally were identified by respondents in two surveys (4,5) as important determinants of their tendency to exercise.

Questions on beliefs and knowledge about activity and fitness have been included in some of these surveys. For example, 57% of those surveyed by the President's Council believed they were getting enough exercise, a belief more likely to be held by older respondents (and therefore, less likely to be valid). This same study found the US Government to be the main source of fitness information, while General Mills found it to be one of the least-cited sources of health information. Perrier found that, while the value of fitness was generally accepted, there was general ignorance about how to achieve it. Two Canadian studies (2,8) with similar questions found definite increases between 1976 and 1981 in the recognition of national programs to encourage fitness, but very large differences remained in the visibility of various programs. Further, recognition was highest amongst the youngest age groups.

E. Correlated Health Behavior

Many contemporary lifestyle modification programs operate on the assumption that positive change in one behavior (e.g., physical activity) will have a beneficial effect on other behaviors which might also be changed (e.g., smoking). Survey findings do not always support this assumption.

For example, smokers and non-smokers were found in equal numbers amongst active and inactive respondents in two surveys (1,4), with the exception of participants in the most demanding sports (4). Regular exercisers were found to watch their diets more carefully than inactives (5), although exercise had little reported impact on appetite (4) or weight loss (1,4). However, active Canadians as defined by the CFS(8), were less likely to smoke, more likely to get 7-8 hours sleep, and more inclined to eat a good breakfast on a regular basis.

F. Health Consequences?

Most of these surveys began with the premise that physical activity is desirable, and it was therefore important to find out how many in the population were active. Some studies went further, however, and measured general health status (2,3,4,6,8), physical health or fitness specifically (2,3,4,6,8), psychological health (3,4,8), the use of health care services (3,6), and the perceived benefits of fitness (4). Those rare surveys (CHS and CFS) which obtained physical assessments are the more valuable ones in assessing the benefits of being active, but

even here the evidence is strictly correlational. Longitudinal outcome studies such as those conducted by Paffenbarger and associates (11) or by Breslow and others (12) provide more reliable evidence on the health impact of physical activity, but, being local in their sampling, they are not considered in this review. They are discussed elsewhere, however (9).

The Canada Health Survey found that higher activity levels are positively associated with measured oxygen update and emotional well-being, and negatively correlated with disability days, doctor visits, chronic activity limitation and measured blood pressure. Respondents in the Perrier study perceived an association between regular activity and psychological well-being. The Canada Fitness Survey found that, in contrast to sedentary people, active ones have better stamina, flexibility, muscular endurance and strength, better emotional and self-assessed health, and are less likely to be screened out of fitness testing as a medical risk.

POSSIBILITIES FOR SECONDARY ANALYSIS

Further analysis of the data sources reviewed here is desirable for two reasons: (a) to clarify the largely descriptive statistics already published, for the sake of establishing the reliability of findings, and (b) to examine the relationships between and among health behaviors (including activity) and health status measures (including fitness).

A. Clarifying Descriptive Statistics

The brief review earlier in this paper illustrated the difficulty of making general statements about the extent of physical activity in the population, changes in participation rates over time, the true nature of East-West participation patterns, or the relative popularity of activities with passing years. As noted, this difficulty arises from inconsistent definitions of "active" and varying age coverage. The latter is a straightforward matter, easily solved through re-analysis of these sources. The question of a definition is another matter, however.

Ideally, the active population would be defined on the basis of frequency, intensity and duration of involvement in physical activity. This approach has been adopted by CHS, Perrier, and CFS. It could be extended to the President's Council and the F&AS surveys. To make meaningful comparisons of results, however, there must be consistency in (a) the energy expenditure constants assigned to represent the intensity of various activities and (b) the inclusion or exclusion of household chores and work. The CFS approach is to define a total energy expenditure index, and sub-indices for work, leisure, chores and sleep (10).

Even without the calculation of an elaborate index, the active population could be more precisely defined if frequency of activity was consistently treated (e.g., twice per week on a regular basis) and if the nature of the activities considered was consistent (e.g., the F&AS survey did not include dancing, but CHS found this to be a very popular, and often

demanding activity). In this regard, the distinction between "exercise" and "sport" appearing in two surveys (President's Council, F&AS) should be removed.

These problems can be effectively addressed post-hoc through secondary analysis; they should also influence the design of future surveys.

With a sound definition of "active", it will be possible to examine trends over the period 1972-1981 in gross participation levels, in the profile of the typical participant, and in the popularity of specific activities. The investigation of profiles, in particular, would profit from the large samples (20,000+) of the three major Canadian surveys: F&AS, CHS and CFS. These substantial data files permit the investigator to control for the important variables of age and socio-economic status, amongst others, in looking at questions such as the East-West or urban-suburban distribution of the active population.

A clear description of the active population and how it is changing over time is fundamental to planning fitness promotion programs.

B. Examining Causal Relationships

While granting that it is impossible to establish cause and effect with a cross-sectional data set, there are numerous relationships in these survey files which theoretical models presume to be causal. The

strength, if not the direction, of these relationships can be profitably examined through secondary analysis. Some of the more important are intergenerational influences on activity patterns, the relationship of beliefs and behavior, and the links between activity, fitness and health.

The sample design of four surveys (2,3,5,8) produced data from several members of each household. In many of these, there are parents and dependent children, raising the possibility of examining the consistency of activity patterns between generations under the same roof. This would provide a valuable complement to those surveys (e.g., 1,4) which asked about parents' attitudes toward their children's involvement in sports.

A related issue which could be examined, and about which little has been published based on these surveys, is the relationship between stated beliefs, attitudes, and self-reported behavior. To date, only General Mills, and CFS have attempted this in a systematic way, with comparisons between regular exercisers and "sedentaries" on several dimensions. The President's Council, F&AS, and Perrier surveys all offer rich possibilities for pursuing this issue.

The relationships among several health behaviors (notably activity, smoking, alcohol use and dietary habits) are being most thoroughly examined in the two-wave National Survey of Personal Health Practices and Consequences. Unfortunately, their activity questions yield only

the most general notions of frequency of exercise ("often/sometimes/rarely/never") and so are not of much assistance to researchers whose primary interest is in physical recreation. The Canada Health Survey and Canada Fitness are both amenable to detailed secondary analysis on this issue and, moreover, have comparable questions, sample designs and data collection.

Considering the interest in establishing the positive impact of activity on health, it is surprising that more analysis of these surveys has not focused in this area. As noted earlier, various indices of physical and psychological health appear in several of the surveys (2,3,4,6,8). These are most extensive in the CHS, which, like the CFS, also has a battery of performance tests and physiological data for many of the same respondents who completed questionnaires. Both of these surveys have the large sample size necessary for the control of confounding variables, as urged by Milvy et al. (13) in studies of this type.

A special category of analytical study, to examine the relationship of activity to health, involves linking existing data sets together. White (14) describes the possibilities for prospective studies linking the CFS records to those of provincial health insurance files, hospital separations, and mortality registers. This approach could be pursued with other data sets for either prospective or retrospective studies. It is likely to work best with those surveys which have sample sizes large enough to yield an adequate number of cases to study.

Yet another approach to the study of physical activity as a determinant of health is to study the geographic associations of activity patterns and disease prevalence. For example, CHS smoking data have been used in examining the difference in mortality between the provinces of Nova Scotia and Saskatchewan (14), and activity data could be similarly employed.

FUTURE DEVELOPMENTS

The history of physical activity surveys to date has been marked by a variety of approaches to the topic, which reflect the sponsors' interests. It is natural that this is the case, and it will likely continue thus. Nevertheless, future surveys would all profit from adopting certain definitional guidelines.

Foremost in importance is the need, as discussed above, for a consistent definition of "active" and "activity". The minimal definition of "active" is physical activity two or three times each week on a regular basis, and the survey respondent should understand what form of activity is of interest. The surest way to do this is with a reference card which includes a wide range of sports, exercise activities such as jogging, the major forms of dancing, and outing activities. Depending on the population surveyed, special consideration will be needed for school gym classes, household and farm chores and work activity. Since most of the surveys in this domain are concerned with discretionary physical activity during leisure time, these latter

activities should be explicitly excluded or treated separately. The best definition of "active" is one developed by the researcher from a detailed questioning of activity patterns: types engaged in and the frequency and average duration of each.

The substantive area which appears, on the basis of this review, to be most neglected involves the determinants of fitness, in order: knowledge, beliefs, motivations, and attitudes. Barriers have been thoroughly surveyed and need little attention until there is reason to believe they have changed. However, the widely-held belief that time constraints impede activity suggests that a proper time-use study might be useful.

Perhaps the most significant undertaking at this time would be a longitudinal follow-up of the participants in an earlier survey, preferably one of the more recent ones. This could achieve two major purposes: (a) it would shed light on the factors influencing both activity patterns and fitness levels, assuming these had been measured in some detail in the first wave; and (b) it would facilitate trend analysis based on a cross-sequential design such as that of the Canada Fitness Survey, if, at the same time as the second panel, a new and equivalent sample is surveyed. Such a strategy would not only go a long way toward explaining the dynamics underlying exercise habits, but would also be invaluable in developing methods to study changes over time in other health behaviors.

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APPENDIX 1. SURVEY CHARACTERISTICS

Survey/date	Sample size/ age coverage	Data collection methods	Key definition of "active"	% reported "active"
President's Council/1972	3875 age 22+	one interview per household	now doing at least one of 6 listed activities	55%
F&AS/1976	70,000+ age 14+	self-completed questionnaire	(a) any exercise activities in last month (b) any sport activities in last 12 months	59% 50%
Canada Health Survey/1978-79	13,507 households 26,388 questionnaires, age 15+ approx. 6000 fitness tests, age 15-64	interview, self-completed questionnaire, physiological tests, blood analyses	score 3000+ on index incorporating frequency, intensity, duration	36%
Perrier/1978	1510 age 18+	personal interview, telephone interview of runners	(a) participated on a regular basis any time during the year (b) "high active" based on energy expenditure index	59% 15%
General Mills/ 1978	1254 families 2181 interviews age 12+	interview	planned physical exercise at least several times per week	36%
NSPHPC/ 1979, 1980	Wave I-3025 Wave II-2453 age 20-64	telephone interview	often take long walks (highest of 7 listed activities)	45% (Wave I)
PARTICIPaction/ 1979,1982	1982-2000 age 15+	personal interview	physically active a minimum of 2 or 3 sessions per week	25% (1979) 37% (1982)
Canada Fitness Survey/1981	11,884 households 21,568 questionnaires age 10+ 15,519 fitness tests age 7-69	self-completed questionnaire, fitness tests, anthropometry	(a) any exercise activities in last month (b) any sport activities in last 12 months (c) participated on average 3 hours/week for 9 months of last 12 (d) energy expenditure index	58% 68% 56% (forthcoming)

CANADIAN PARTICIPANTS

Dr. W. Forbes
Faculty of Mathematics
University of Waterloo
Waterloo, Ontario
N2L 3G1

Dr. Vic Marshall
Department of Behavioural Science
University of Toronto
McMurrich Building
Toronto, Ontario
M5S 1A8

Dr. Malcolm Weinstein
Director of Health Planning
Vancouver Health Department
1060 West 8th Avenue
Vancouver, B.C.

Dr. Carl D'Arcy
Research Officer
Applied Research Unit
Psychiatric Services Branch
Saskatchewan Health
Saskatoon, Saskatchewan
S7N 0X0

Ruth Cooperstock
Research Scientist
Addiction Research Foundation
33 Russell Street
Toronto, Ontario
M5S 2S1

Dr. Ron Schlegel
Associate Professor
Faculty of Human Kinetics and
Leisure Studies
Department of Health Studies
University of Waterloo
Waterloo, Ontario N2L 3G1

Dr. Arthur Smith
Chief, Medical Economics
Information Systems Directorate
Brooke Claxton Building
Tunney's Pasture
Ottawa, Ontario K1A 0K9

Mr. Neil Collishaw
Health Protection Branch
Bureau of Tobacco Control and
Biometrics
Laboratory Centre for Disease
Control Building
Tunney's Pasture
Ottawa, Ontario K1A 0L2

Thomas Stephens, Ph.D.
Executive Director
Canada Fitness Survey
506 - 294 Albert
Ottawa, Ontario K1P 6E6

M. Clarkson
Ministère des Affaires sociales du
Québec
1005 Chemin Ste-Foy, 2e étage
Québec, Québec G1S 4N4

Ellen Corin, Ph.D.
Directeur
Unité de Recherche psychosociale
Hôpital Douglas
6875 boul. LaSalle
Verdun, Québec H4H 1R3

Dr. M. Blanchet
Conseil des affaires sociales
et de la famille
1126 chemin St-Louis
Sillery, Québec G1A 1E5

Dr. Raynald Pineault
Département de médecine sociale
et préventive
Faculté de Médecine
Université de Montréal
2375 chemin Côte Ste-Catherine
Local 6080
Montréal, Québec H3T 1A8

Dr. J. Tremblay
Centre Kellog
Hôpital General de Montréal
1650 avenue des Cèdres
Montréal, Québec H3G 1H4

Madame Marie-France Thibaudeau
Doyenne
Faculté des sciences infirmières
Université de Montréal
C.P. 6128, succ. "A"
Montréal, Québec H3C 3J7

Mrs. D. VanToever, Biostatistician
Health Promotion Studies Unit
Health Promotion Directorate
Health and Welfare Canada
Room 518, Jeanne Mance Building
Tunney's Pasture
Ottawa, Ontario K1A 1B4

Ms. H. Nielsen
Chief, Nutrition Programs
Health Promotion Directorate
Room 446, Jeanne Mance Building
Tunney's Pasture
Ottawa, Ontario K1A 1B4

Mr. J. Coombs
Director, Health Division
Statistics Canada
R.H. Coates Building
Tunney's Pasture
Ottawa, Ontario

Pierre Lamarche
Regional Director, Quebec Region
Health Promotion Directorate
1255 University, 5th Floor
Montreal, Quebec H3B 3V8

Dr. I. Rootman, Chief
Health Promotion Studies Unit
Health Promotion Directorate
Room 518, Jeanne Mance Building
Tunney's Pasture
Ottawa, Ontario K1A 1B4